

Section 01 Identification

Info furnished by: Fry Technology
 Address: 4100 Sixth Avenue
 Altoona, PA 16602
 Date Effective: 03/31/97
 Emergency Phone: (814) 946-1611
 Chemtrec: 800-424-9300 (Use only in the event of chemical emergencies involving a spill, leak, fire, exposure, or accident involving chemicals).
 Product or Trade Name: Tin/Lead/Antimony/Silver/Indium/Bismuth Alloys
 Person to Contact: Daren Cuppett/ Jack Wagner

Section 02 Hazardous Constituents

<u>INGREDIENTS</u>	<u>CAS NUMBER</u>	<u>WT. %</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>
*Lead	7439-92-1	-	0.05 mg/cum	0.05 mg/cum
*Tin	7440-31-5	-	2.0 mg/cum	2.0 mg/cum
*Silver	7440-22-4	See Below	0.01 mg/cum	0.1 mg/cum
*Bismuth	7440-69-9	See Below	NE	NE
*Antimony	7440-36-0	-	0.5 mg/cum	0.5 mg/cum
*Indium	7440-74-6	-	0.1 mg/cum	0.1 mg/cum

***Product contains one or more of these metallic elements in varying percentages.**

Weight Percent: Composition of solder alloys vary widely, therefore, no weight percent or specific gravity is given. (See product label for composition).

Section 03 Physical Data

Melting Point 360 - 620^o depending on composition
 Boiling Point N/A
 Vapor Pressure Not volatile
 Vapor Density (air is 1) Not volatile
 Solubility in Water NIL
 Appearance & Color Silver to grey metal
 Specific Gravity 7-11 approx. depending on composition
 Odor None
 % Volatile Nil
 pH N/A
 Evaporation N/A

Section 04 Fire & Explosion Hazard Data

Flash Point/Method Used	Not Flammable
Flammable Limits	N/A
Extinguishing Media	N/A
Fire-fighting Equipment	If this metal is present where there is a fire, wear self-contained breathing apparatus in case of toxic lead fumes.
Special Precautions	None

Section 05 Reactivity Data

Stability:	Stable
Conditions to Avoid:	N/A
Hazardous Polymerization:	Will not occur.
Incompatibility:	Strong acids, oxidizers, reducing agents, and halogens.
Hazardous Decomposition Products:	Lead fumes at high temperatures (above 800 F).

Section 06 Spill, Leak and Disposal Procedures

Action to take for Spills/Leaks:	Allow to solidify and collect in sealed drums for disposal.
Disposal Method:	Return to supplier for reprocessing.

Section 07 Health Hazard Data

INHALATION: LEAD: Exposure to high levels of airborne or ingested lead may produce symptoms of anemia, insomnia, weakness, constipation, nausea and abdominal pain. Overexposure may cause damage to blood-forming, nervous, reproductive, intestinal and urinary systems. For occupational exposure requirements see 29 CFR 1910.1025 Lead standard and its appendices.

CHRONIC TOXICITY: Women of child-bearing age should avoid exposure to lead and its inorganic compounds due to post-natal effects. Lead can cause potential injury to a developing fetus and possible effects on reproduction.

For overexposure to TIN, SILVER, BISMUTH, ANTIMONY, and INDIUM see Section 10.

MEDICAL CONDITIONS POSSIBLY AGGRAVATED: See Section 10.

INGESTION: Call a physician or Poison Control Center at once.

SKIN: Not a route of entry into the body.

EYES: Can cause irritation. Not a primary irritant. Can be abrasive.

Section 07 (Continued)

LISTED CARCINOGENS: None of the metal elements of this product are listed as human carcinogens at this time by NTP, IARC, or OSHA. IARC classifies lead and some lead compounds as 2B carcinogens (possibly carcinogenic to humans). This classification based primarily on carcinogenicity of certain soluble lead salts in lab animals. Neither lead nor its insoluble salts appear to be carcinogenic to humans or lab animals.

Section 08 First Aid Procedures

Eyes: Flush with large amounts of water, lifting upper and lower lids occasionally. Get medical attention.

Skin: Wash exposed area with soap and water. Remove contaminated clothing. For hot metal burns, exposed area should be cooled with water and medical attention sought.

Ingestion: Call a physician or Poison Control Center immediately. Never give anything by mouth to an unconscious person.

Inhalation: Lead: Excessive overexposure may result in an acute or chronic illness. If symptoms are present, the individual should be removed from exposure and a physician consulted.

Note to Physician: N/A

Section 09 Special Handling Information

Ventilation: If fume or dust is being generated, mechanical ventilation must be provided to maintain exposure levels below TLV's.

Respiratory Protection: Only required if TLV's are exceeded. Use a NIOSH/MSHA approved respirator for toxic dust and/or fume. Note: See 29CFR1910.1025 Subpart (f) of OSHA's Lead Standard.

Eye Protection: Wear safety glasses during soldering operations.

Skin Protection: Protective gloves should be worn to reduce burn exposure. Work clothes should be worn and laundered in accordance with current OSHA lead standards.

Section 10 Special Precautions & Additional Information

NOTES TO PHYSICIAN: Lead and its inorganic compounds are neurotoxins which may produce peripheral neuropathy. For an overview of the effects of lead exposure, consult Occupational Safety and Health Administration Appendix A of Occupational Exposure to Lead (29CFR1910.1025).

HEALTH HAZARD DATA: (continued)
OVEREXPOSURE TO:

TIN:	Dust or fume may cause irritation of the skin and mucous membranes, and may result in a benign pneumoconiosis (stannosis).
SILVER:	May cause discoloration of eyes and skin (argyria).
BISMUTH:	May cause foul breath, a blue-black line on the gums, and stomatitis.

Section 10 Special Precautions & Additional Information(continued)

ANTIMONY:	May cause gastrointestinal upset, sleeplessness, irritability and muscular pain. May also cause respiratory tract irritation, metallic taste or damage to kidney, liver or nervous system.
INDIUM:	May cause weight loss, pulmonary edema, blood damage and degenerative changes in liver and kidneys.
MEDICAL CONDITIONS POSSIBLY AGGRAVATED:	Diseases of the blood and blood-forming organs, kidneys, nervous and possibly reproductive systems.
Storage: Store in dry conditions.	Avoid storage near acetylene, chlorine or hydrogen peroxide (due to copper content).
Handling Information:	Lead use is regulated under OSHA 29CFR1910.1025. No food or drink should be allowed in areas where these products are handled. Personnel must wash thoroughly after handling the metal before drinking, eating or smoking.
Shipping Information:	This material is not regulated by 49 CFR (Code of Federal Regulations, Transportation) while in a solid bar form. However, if in small particle form less than .004 inches in diameter, certain alloys by weight (lead > 10 lbs., antimony > 5,000 lbs., silver > 1,000 lbs.) are regulated as: RQ, Environmentally Hazardous Substance, N.O.S. (insert metal),9, UN3077, PG III
Regulatory Information:	California State Proposition 65: "WARNING! This product may contain LEAD known to the State of California to cause cancer, birth defects or other reproductive harm." (See product label.)
Toxic Substance Control Act (TSCA) Status:	All ingredients of this product are listed on the TSCA inventory.
SARA TITLE III (Section 313):	Components that may be present in this product at a level which could require reporting under this statute are: Lead, Antimony, Silver (See product label.)

Material Safety Data Sheet
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Tin/Lead/Antimony/Silver/Indium/Bismuth Alloys
MSDS3.3

Section 11 Hazard Rating

Based on NFPA and NPCA Systems

Health - 2

Flammability - 0

Reactivity – 0

Special Hazard -

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